Section 13. Scup

Scup (*Stenotomus chrysops*) are a migratory, schooling species found on the continental shelf of the Northwest Atlantic, commonly inhabiting waters from Cape Cod, Massachusetts to Cape Hatteras, North Carolina. Scup overwinter in offshore waters from southern New Jersey to Cape Hatteras. When water temperatures begin to rise in spring and summer, scup migrate to more northern and inshore waters to spawn. Spawning areas include locations from southern New England to Long Island, New York. Large fish arrive to the spawning grounds first, followed by successive waves of smaller individuals, suggesting that scup school by size. Larval scup are pelagic and are found in coastal waters during warmer months. Juvenile scup use a variety of coastal habitats and can dominate the overall fish population in large estuarine areas during the summer months.

Chesapeake Bay FMP

No Chesapeake Bay Program management plan has been developed for scup since it is primarily a coastal species and rarely is caught in the Maryland portion of the Chesapeake Bay. Maryland declared scup "in need of conservation" and has authority to manage the species through that declaration. The authority to manage scup is important from a coastal perspective and because scup is one of three species managed together with black sea bass and summer flounder.

Atlantic Coast FMP

Scup are managed along the Atlantic coast under Amendment 10 to the ASMFC/MAFMC Summer Flounder FMP that was completed in 1996. The coastal plan provided a framework for reducing fishing mortality and rebuilding the stock over a 7-year period. At the time of the plan adoption, scup were overfished and the stock was near collapse. Since the plan was adopted, several amendments and addendums have been developed. The management framework includes steps for time and area closures, minimum size, mesh restrictions and an annual quota for both the recreational and commercial fisheries. A coastwide total allowable catch (TAC) was implemented in 1997. The commercial fishery is allotted 78% of the total and the recreational fishery is allotted 22% of the total. Amendment 12 established a biomass threshold for scup as follows: scup is overfished when spawning stock biomass (SSB) falls below 2.77 kg/tow (the average from 1977-1979) and overfishing is occurring when F exceeds 0.26. States are required to complete an annual compliance report (Appendix 8).

Stock Status

The scup stock was last assessed in June 2002. The assessment indicated that scup are no longer overfished and that stock status with respect to overfishing could not be evaluated. Although the relative exploitation rates have declined in recent years, the absolute value of F cannot be determined. The survey data indicates strong recruitment and some rebuilding of age structure in recent years. In general, there was an increase in

stock abundance from the late 90's until 2004. The 2004 SSB estimate has decreased and is below the biomass threshold (ASMFC 2005).

There are some problems associated with the stock assessment model runs because the input data contained a number of inadequacies. The major uncertainty is estimating total catch because commercial discards cannot be quantified. Lack of discard data continues to preclude an analytical stock assessment for scup. As a result, the absolute value for fishing mortality (F) was not developed. Management advice is based on survey observations from 2002 with considerable uncertainty associated with commercial discards.

Although the stock assessment results are questionable, State and federal survey indices for scup indicate an increase in stock abundance. The Northeast Fisheries Science Center (NEFSC) spring survey results indicate that spawning stock biomass has increased each year since 1998. The estimate for 2003 is 3.74 kg/tow or about 35% above the biomass threshold of 2.77 kg/tow. Although stock size appears to be increasing, the 2004-year class is below average. Estimates of F on older fish were not possible since they are not well represented in the surveys. Relative exploitation rates based on total landings and the spring survey suggest a general increase in exploitation from 1981 to 1995. Since then, relative exploitation rates have declined; the 2002 value is about 3% of the 1997 value.

Fishery Statistics

Statistics on the estimated recreational scup harvest from Maryland (Table 1) are incomplete with data being reported for only eight years (1989-1991, 1994, 1998-99, 2001, and 2003). This probably reflects the fact that scup are not readily caught in the Maryland portion of the Bay although some fish are caught along the coast. Estimated recreational scup harvest records from Virginia (Table 1) begin in 1981 and exhibit a wide range in catch. The annual average harvest in the 1980's was 5,988 pounds and increased to 16,216 pounds in the 1990's due to a catch of 76,372 pounds in 1990. Harvest quickly tapered off after 1990 and is beginning to increase again in 2002 and 2003 (1,047 pounds and 2,914 pounds; respectively).

Commercial harvest records for scup from the Chesapeake Bay indicate that scup harvest is highly variable and currently managed under a coastwide quota. In Maryland (Figure 13.1), the mean annual commercial scup harvest has declined every decade since records were consistently maintained. The harvest from 1950-1959 was 282,040 pounds and the mean annual harvest for 1990-1999 was 13,467 pounds. The commercial scup harvest from Virginia has also displayed a great degree of variation but has generally declined over the years (Figure 13.1). Virginia's annual average scup harvest from 1950-1959 was 9,437,140 pounds while the 1990-1999 average annual harvest was 106,277 pounds. The observed declines can be attributed to both a decline in the stocks and more restrictive fishery management practices.

Emerging Issues

Scup is one of three species managed together with summer flounder and black sea bass. There is considerable variation in annual catches that makes management difficult. The development of a multi-year management approach would be beneficial. Currently, there are some differences between how the state (ASMFC) and federal (MAFMC) commercial quota is managed during the summer period. These differences need to be resolved. In order to complete a stock assessment, the characterization of commercial and recreational discards is imperative.

References

ASMFC 2005. The 2005 Review of the Atlantic States Marine Fisheries Commission Fishery Management Plan for Scup (Stenotomus chrysops). Prepared by J. Nygard and the Scup Plan Review Team.

Table 13.1 – Estimated Recreational Scup Harvest (1981-2004)

Year	MD Harvest (lbs)	VA Harvest (lbs)
1981	NA	2,033
1982	NA	5,282
1983	NA	NA
1984	NA	256
1985	NA	5,520
1986	NA	5,207
1987	NA	8,838
1988	NA	3,161
1989	1,378	17,604
1990	15,818	76,372
1991	7,405	35,441
1992	NA	8,867
1993	NA	9,729
1994	0	6,369
1995	NA	6,856
1996	NA	1,649
1998	0	659
1999	567	0
2000	NA	0
2001	0	346
2002	NA	1,047
2003	0	2,914
2004	1,753	3,435

NA - Data not available.

Figure13.1 Commercial Scup Harvest from Maryland and Virginia, 1950-2004